

**To:** OBrien, Wendy[OBrien.Wendy@epa.gov]; Hamilton, Karen[Hamilton.Karen@epa.gov]; Card, Joan[Card.Joan@epa.gov]; R8 GKM Leadership Team[R8\_GKM\_LeadershipTeam@epa.gov]; Gray, David[gray.david@epa.gov]; Chilingaryan, Sona[Chilingaryan.Sona@epa.gov]; Zito, Kelly[ZITO.KELLY@EPA.GOV]  
**From:** StClair, Christie  
**Sent:** Tue 5/24/2016 4:28:12 PM  
**Subject:** RE: FAQ update - agriculture in Utah

Thanks for everybody's help on this.

I'm running with this as the draft final, please let me know by end of today if you have anything to add – or can point me toward an external resource for more info.

**How did the release affect local wildlife, crops and livestock??**

The Colorado Department of Public Health and Environment issued a Sept. 1 fact sheet with the following statement: "The Colorado Department of Public Health and Environment recommends that eating trout from the Animas River at this time is considered safe. CDPHE analyzed fish tissue from rainbow and brown trout from the Animas River. Based on the limited samples available, most of the post (Gold King) event fish tissue analyzed showed metals below detectable levels and all results fall below risk screening levels. Because there is a potential for the fish to concentrate metals in their tissue over time, CDPHE and CPW will continue to monitor levels of metals in Animas River fish. New data will be analyzed and the results will be reported when available."

Utah's Department of Environmental Quality has found no health concerns for livestock or crops from the San Juan River in Utah. The toxicologist's evaluation is available here:  
<http://www.deq.utah.gov/Topics/Water/goldkingmine/stateofevalu.htm>

The San Juan Basin Health Department issued a March 16, 2016 fact sheet that notes, "Overall, levels of heavy metals in soil and water are similar to previous years, and it is unlikely that heavy metals will make their way into crops at levels that are risky to human or livestock health." The fact sheet also provides guidance for ranchers, farmers and home gardeners for testing the copper, molybdenum and sulfur levels in hay, pastures and gardens. The fact sheet is available here: <http://sjbhd.org/wp-content/uploads/2016/03/Spring-Agriculture-FAQs.pdf?f6619c>

**Christie St. Clair**

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**From:** OBrien, Wendy

**Sent:** Thursday, May 19, 2016 10:20 AM

**To:** Hamilton, Karen <Hamilton.Karen@epa.gov>; Card, Joan <Card.Joan@epa.gov>; StClair, Christie <StClair.Christie@epa.gov>; R8 GKM Leadership Team <R8\_GKM\_LeadershipTeam@epa.gov>; Gray, David <gray.david@epa.gov>; Chilingaryan, Sona <Chilingaryan.Sona@epa.gov>; Zito, Kelly <ZITO.KELLY@EPA.GOV>

**Subject:** RE: FAQ update - agriculture in Utah

All,

I'm not sure how much information I have to add. On February 10, I received a request from the R8 GKM team seeking help responding to the following question from a reporter:

"Could you please put me in touch with someone who can comment on how the spill and overall heavy metal discharges could affect cattle. I believe one of the risks is a copper deficiency, which could cause low production rates if consumed over time."

I responded to the R8 folks as follows (I don't know what the ultimate response to the reporter was):

"Mineral ratios are important for animal health and performance (not unlike humans), and it is important to remember that trace mineral deficiencies are not created in the short-term. In ruminants, copper deficiency can develop in association with low copper levels in the diet (e.g., forage grown in copper-deficient soil). Additionally, some minerals, such as molybdenum or sulfate, can interfere with copper absorption in the ruminant gi tract and result in copper

deficiency. Owners concerned about copper levels in cattle should work with their local veterinarian as well as local/state extension agencies to diagnose and, if necessary, address the condition.

During the very early response phase, I worked in the R8 EOC here in the Denver office. I coordinated extensively with CDPHE during that time frame, and am familiar with their statement below regarding fish, but I'm not aware of any statements regarding livestock or agriculture.

Please let me know if there's anything else I can do to help.

Wendy

Wendy O'Brien, DVM, PhD, DABT

Toxicologist, Ecosystems Protection and Remediation

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**From:** Hamilton, Karen

**Sent:** Wednesday, May 18, 2016 2:36 PM

**To:** Card, Joan <[Card.Joan@epa.gov](mailto:Card.Joan@epa.gov)>; StClair, Christie <[StClair.Christie@epa.gov](mailto:StClair.Christie@epa.gov)>; R8 GKM Leadership Team <[R8\\_GKM\\_LeadershipTeam@epa.gov](mailto:R8_GKM_LeadershipTeam@epa.gov)>; Gray, David <[gray.david@epa.gov](mailto:gray.david@epa.gov)>; Chilingaryan, Sona <[Chilingaryan.Sona@epa.gov](mailto:Chilingaryan.Sona@epa.gov)>; Zito, Kelly <[ZITO.KELLY@EPA.GOV](mailto:ZITO.KELLY@EPA.GOV)>

**Cc:** OBrien, Wendy <[OBrien.Wendy@epa.gov](mailto:OBrien.Wendy@epa.gov)>

**Subject:** RE: FAQ update - agriculture in Utah

From UDEH “statement of data evaluation” for 8/12,13,14,15,16,19 and 9/2/2015, the toxicologist found no health concerns for livestock or crops from the San Juan River. This is for Utah only.

<http://www.deq.utah.gov/Topics/Water/goldkingmine/stateofevalu.htm>

Statement of Data Evaluation

To: Worthy Glover, San Juan Public Health;

Utah Department of Environmental Quality, Division of Drinking Water

From: Craig J. Dietrich, Ph.D., DABT

Toxicologist

Utah Department of Health, Environmental Epidemiology Program

This statement is provided by the Utah Department of Health (UDOH) Environmental Epidemiology Program (EEP).

**From:** Card, Joan

**Sent:** Wednesday, May 18, 2016 11:59 AM

**To:** StClair, Christie <[StClair.Christie@epa.gov](mailto:StClair.Christie@epa.gov)>; R8 GKM Leadership Team <[R8\\_GKM\\_LeadershipTeam@epa.gov](mailto:R8_GKM_LeadershipTeam@epa.gov)>; Gray, David <[gray.david@epa.gov](mailto:gray.david@epa.gov)>; Chilingaryan, Sona <[Chilingaryan.Sona@epa.gov](mailto:Chilingaryan.Sona@epa.gov)>; Zito, Kelly <[ZITO.KELLY@EPA.GOV](mailto:ZITO.KELLY@EPA.GOV)>

**Cc:** OBrien, Wendy <[OBrien.Wendy@epa.gov](mailto:OBrien.Wendy@epa.gov)>

**Subject:** RE: FAQ update

Utah’s plan (I’ve sent earlier and they have a GKM web site where you can find this) has conclusions about ag use water quality standards.

I’m adding Wendy O’Brien to see if she has access to other information that might be responsive to this.

Joan

**From:** StClair, Christie

**Sent:** Wednesday, May 18, 2016 11:55 AM

**To:** R8 GKM Leadership Team <[R8\\_GKM\\_LeadershipTeam@epa.gov](mailto:R8_GKM_LeadershipTeam@epa.gov)>; Gray, David <[gray.david@epa.gov](mailto:gray.david@epa.gov)>; Chilingaryan, Sona <[Chilingaryan.Sona@epa.gov](mailto:Chilingaryan.Sona@epa.gov)>; Zito, Kelly <[ZITO.KELLY@EPA.GOV](mailto:ZITO.KELLY@EPA.GOV)>

**Subject:** FAQ update

Sona and Enrique raised a good question: Do we have any info on how the release affected livestock or agricultural products, either in CO, NM or NN?

Right now this is all we are saying:

**How did the release affect local wildlife?**

On September 1, 2015, CDPHE issued a fact sheet with the following statement: "The Colorado Department of Public Health and Environment recommends that eating trout from the Animas River at this time is considered safe. CDPHE analyzed fish tissue from rainbow and brown trout from the Animas River. Based on the limited samples available, most of the post (Gold King) event fish tissue analyzed showed metals below detectable levels and all results fall below risk screening levels. Because there is a potential for the fish to concentrate metals in their tissue over time, CDPHE and CPW will continue to monitor levels of metals in Animas River fish. New data will be analyzed and the results will be reported when available."

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